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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Applicant: Balloni et al.

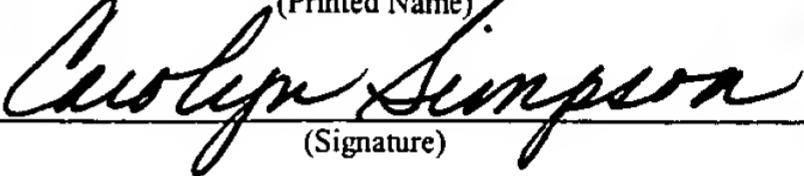
Title: METHOD AND APPARATUS  
FOR REMOTE OR  
COLLABORATIVE CONTROL  
OF AN IMAGING SYSTEM

Appl. No.: 09/745,320

Filing Date: 12/21/2000

Examiner: Lezak, Arrienne M.

Art Unit: 2143

<b>CERTIFICATE OF EXPRESS MAILING</b>	
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Carolyn Simpson (Printed Name)	
 (Signature)	

**REPLY BRIEF ON APPEAL**

Mail Stop Appeal Brief - Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Under the provisions of 37 C.F.R. § 41.37, this Reply Brief is being filed together with authorization under 37 C.F.R. 41.20(b)(2) to charge \$500 (and any deficiencies) to the undersigned deposit account 07-0845.

**REAL PARTY IN INTEREST**

This patent is assigned to GE Medical Systems Global Technology Company and involves GE Medical Systems.

**RELATED APPEALS AND INTERFERENCES**

None.

**STATUS OF CLAIMS**

Claims 1-76 are pending in this application. Each claim has been rejected and each is being appealed.

**STATUS OF AMENDMENTS**

No amendments have been made after the most recent final rejection.

**SUMMARY OF CLAIMED SUBJECT MATTER**

The present application relates generally to an imaging systems environment configured to permit remote and/or collaborative control of imaging systems. The claimed subject matter generally relates to methods and apparatus that permit one or more operators to simultaneously and/or collaboratively control acquisition of images acquired from an imaging system.

**GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Claims 1-74 were rejected as anticipated or obvious in light of US Patent No. 5,715,823 to Wood et al. alone. Claims 1-4, 7-8, 10-11, 17-18, 21, 23-24, 26-27, 46-47, 52-53, 62, 66, 71, and 73 were rejected under 35 U.S.C. § 102(b) as anticipated by US Pat. No. 5,715,823 to Wood et al. Claims 9, 25, 12-16, 28-45, 48-51, 54-61, 63-65, 67-70, 72, and 74-76 are rejected under 35 U.S.C. §103(a) as being unpatentable over Wood et al. While not specifically called out, it appears that Claims 5-6, 19-20, and 22 were also rejected as unpatentable under § 103(a) over Wood in sections 13 and 14 of the Office Action dated April 6, 2005.

## **ARGUMENT**

### **I. Legal Standards**

Some claims have been rejected as unpatentable under 35 U.S.C. § 103(a) which states:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

35 U.S.C. § 103(a).

The legal standards under 35 U.S.C. § 103(a) are well-settled. Obviousness under 35 U.S.C. § 103(a) involves four factual inquiries: 1) the scope and content of the prior art; 2) the differences between the claims and the prior art; 3) the level of ordinary skill in the pertinent art; and 4) secondary considerations, if any, of nonobviousness. Litton Systems, Inc. v. Honeywell, Inc., 87 F.3d 1559, 1567, 39 U.S.P.Q.2d 1321, 1325 (Fed. Cir. 1996); see also Graham v. John Deere Co., 383 U.S. 1, 148 U.S.P.Q. 459 (1966).

A proper rejection under 35 U.S.C. § 103(a) requires that the Examiner establish *prima facie* obviousness. In re Piasecki, 745 F.2d 1468, 1471-72, 223 U.S.P.Q. 785, 787-88 (Fed. Cir. 1984). As recited in the MPEP, “[t]he examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.” MPEP § 2142. Three basic criteria must be met to establish *prima facie* obviousness. MPEP § 2143. First, there must be some suggestion or motivation to modify a reference or combine teachings. *Id.* Second, there must be reasonable expectation of success. *Id.* Third, the prior art reference or references must teach or suggest all the claim limitations. *Id.*

## II. Response to Examiner's Arguments

In addition to the argument made in Applicants' Appeals Brief the following argument is presented in response to the Examiner's most recent argument regarding all pending claims.

### A. New Arguments

In Section II, of the Examiner's Answer, the Examiner makes a new argument that "Wood discloses that the interfaces may control the application in 'at about the same time.'" Such argument is at least procedurally inappropriate in that it is not in compliance with MPEP § 1207.03, Section I. No indication that approval by the Technology Center Director or designee has been presented to Applicants nor was such argument properly identified as such in the Examiner's Answer. Therefore, it is respectfully requested that this argument be withdrawn.

### B. Claims 31-45

Claims 31-45 were rejected as being obvious in light of Wood et al (US 5,715,823). Independent Claim 31 recites, *inter alia*, "means for updating located at the first location and configured to receive a command from the second means for interfacing and transmit an interface update to the second means for interfacing in response to the command, the means for updating being configured to automatically send interface updates to refresh the second means for interfacing." In sum, Applicants' argued in their Appeals Brief that Wood failed to disclose a suggestion or motivation to provide an update to both a first user interface and a second user interface (both at different locations than the imaging system) in response to a command from one of the first and second user interfaces. In response, in section II(C) of the Examiner's Answer, the Examiner argued,

Wood discloses a physician may monitor the progress of the operation of the ultrasound system [column 12 <<lines 23-29>>]. Wood does not expressly disclose that updates would be automatic, but Wood's disclosure of monitoring the progress of the ultrasound system suggests the necessity of a continuous or automatic updating functionality.

The Examiner argues that the ability to “automatically send interface updates to refresh the second means for interfacing” is implicitly found in the Wood reference. However, this argument should fail as Wood et al. actually teach away from automatically updating the second means for interfacing in the manner disclosed by Applicants. Specifically, in Column 12 lines 20 through 30, Wood et al. teach,

To the operator at the system and that interrogator at the remote terminal, their separate functions appear to each of them to be executed in real-time, without conflict with the activities of the other. This means, for instance, that a physician can monitor the progress of an ultrasonographer operating the ultrasound system, retrieving images for diagnoses and patient reports from the ultrasound system, for one patient while the ultrasonographer is in the process of conducting a diagnostic examination of another patient. (underline added for emphasis).

Wood details an apparatus for control of an imaging system having two separate interfaces used for monitoring two separate patients and/or subjects. However Applicants’ system includes separate interfaces configured to monitor one patient continuously updating each interface at two separate locations. *See, Paragraph [0033] lines 1-6 (“--a given imaging system can be simultaneously accessed by one or more persons located at local and/or remote locations. All the persons accessing a given imaging system at a given time may be shown similar, if not identical, information in real-time or quasi real-time via corresponding user interfaces, --”)(underline added for emphasis).*

Applicants teach that the imaging system is observing the same subject – thereby relating “similar, if not identical, information” – not the observation of two separate patients or subjects. *See generally, Applicants’ FIG. 2 and Paragraphs [0032-0037]; See also, Paragraph [0003] (which details at least some of the benefits therein).* Wood et al. do not teach or suggest a “means for updating being configured to automatically send interface updates to refresh the second means for interfacing.” Therefore the rejection of Claims 31-45 should fail.

The Examiner also argues that having the automatic updates would be obvious to a person of ordinary skill in the art. The Examiner cites, browsed sports scores on ESPN.com in support of this proposition. However, news broadcasting is outside of the scope of the prior art.

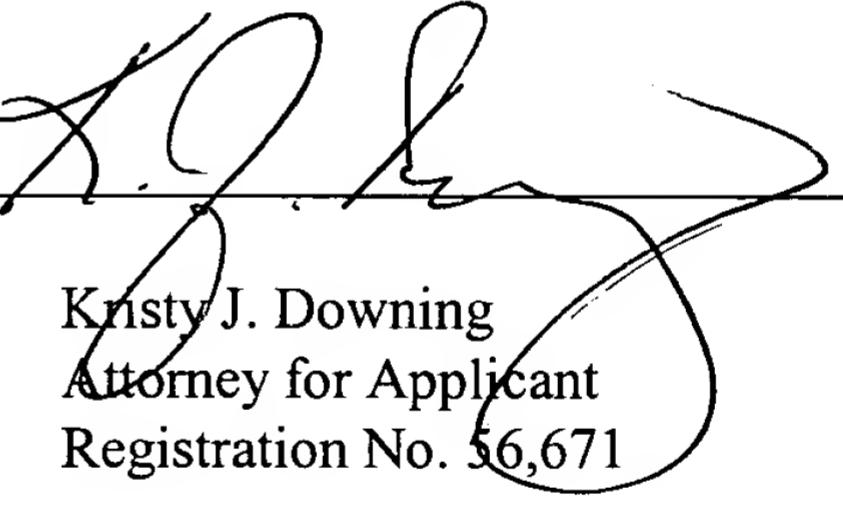
Instead of providing motivation or suggestion to modify in the prior art, the Examiner relies on impermissible hindsight in his reasoning. Accordingly, the Examiner's rejection of Claims 31-45 should fail.

### III. Conclusion

In view of the foregoing, Appellants submit that the claims are not properly rejected as being unpatentable under 35 U.S.C. §102(a) or under 35 U.S.C. §103(a) over the cited reference. Accordingly, it is respectfully requested that the board reverse the claim rejections and indicate that a Notice of Allowance respecting all pending claims be issued.

Respectfully submitted,

Date 4/26/2006

By 

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**CLAIMS APPENDIX**

1. A method for remote or collaborative control of an imaging system, the imaging system associated with an application model located at a first location and the application model being in communication with the imaging system, the method comprising:
  - providing a first user interface at the first location;
  - providing a second user interface at a second location, in response to a request for remote or collaborative control of the imaging system at the second location; and
  - controlling the application model using the first user interface and the second user interface at about a same time.
2. The method of claim 1, wherein providing a second user interface includes generating the second user interface from the application model.
3. The method of claim 2, wherein providing a second user interface includes replicating at least a part of the first user interface using the application model to the second location.
4. The method of claim 1, further comprising commanding the imaging system using at least one of the first and the second user interfaces.
5. The method of claim 4, further comprising updating the first and the second user interfaces in response to at least one command made to the imaging system by at least one of the first and the second user interfaces or in response to at least one response returned from the imaging system.
6. The method of claim 5, wherein updating the first and the second user interfaces include the application model generating an interface update in response to the at least one command from the first or the second user interface or in response to the at least one response from the imaging system.

7. The method of claim 1, wherein the first location is proximate to the imaging system.
8. The method of claim 1, wherein the second location is remote from the first location and the imaging system.
9. The method of claim 8, wherein communicating with the application model by the second user interface includes communicating with a communications network coupled between the application model and the second user interface.
10. The method of claim 9, wherein the communications network is selected from a group including an intranet, the Internet, a local area network (LAN), a broadband network, a wireless network, and a variety of other networks.
11. The method of claim 1, wherein the second user interface is proximate to the imaging system.
12. The method of claim 1, wherein the second location is the first location.
13. The method of claim 12, wherein communicating with the application model includes the first and the second user interfaces directly communicating with the application model.
14. The method of claim 12, wherein the first user interface, the second user interface, and the application model are included in a collaboration control unit.
15. The method of claim 1, further comprising providing a third user interface at a third another location where the remote or collaborative control will occur, wherein the locations of the first, the second, and the third user interfaces are different from each other.
16. The method of claim 1, wherein the first user interface is a user interface selected from a group including a user interface similar to at least a portion of the second user interface, and a user interface different from the second user interface.

17. An apparatus for remote or collaborative control of an imaging system, the imaging system, the apparatus comprising:

    a control unit including a first user interface and an application model, the control unit being in communication with the imaging system;

    a second user interface provided at a second location, the second user interface usable for remote or collaborative control of the imaging system and being configured to transmit a command to the control unit and to receive a second user interface update from the control unit;

    wherein the second user interface is provided in response to a request for remote or collaborative control of the imaging system at the second location; and

    wherein the apparatus is configured such that the application model can be controlled using the first user interface and the second user interface at about a same time.

18. The apparatus of claim 17, wherein the second user interface is generated from the application model when remote or collaborative control of the imaging system is requested by an operator.

19. The apparatus of claim 17, wherein the second user interface is configured to transmit a command to the application model and to receive a user interface update from the application model.

20. The apparatus of claim 17, wherein the first user interface is configured to transmit a command to the application model and to receive a user interface update from the application model.

21. The apparatus of claim 20, wherein the imaging system is controlled via at least one of a first and a second command from the first and the second user interfaces, respectively.

22. The apparatus of claim 20, wherein user interface updates are generated by the application model in response to any of the command from the first user interface, the command from the second user interface, and at least one response returned from the imaging system.
23. The apparatus of claim 22, wherein user interface updates sent to the first user interface and the second user interface are similar to each other.
24. The apparatus of claim 17, wherein the second location is remote from the imaging system and the first location.
25. The apparatus of claim 24, further comprising a communications network coupled between the application model and the second user interface.
26. The apparatus of claim 25, wherein the communications network is selected from a group including an intranet, the Internet, a local area network (LAN), a broadband network, and a wireless network.
27. The apparatus of claim 17, wherein the second location is proximate to the first location.
28. The apparatus of claim 27, wherein the second user interface is included in the control unit.
29. The apparatus of claim 17, further comprising
  - a third user interface at a third location where the remote or collaborative control will occur,
    - wherein the locations of the first, the second, and the third user interfaces are different from each other; and
    - wherein the apparatus is configured such that the application model can be controlled using the first user interface, the second user interface, and the third user interface at about a same time.

30. The apparatus of claim 17, wherein the second user interface is included in at least one of a local operator console and a remote workstation.

31. An apparatus for remote or collaborative control of an imaging system, the apparatus comprising:

first means for interfacing at a first location;

second means for interfacing at a second location, in response to a request for remote or collaborative control of the imaging system at the second location; and

means for updating located at the first location and configured to receive a command from the second means for interfacing and transmit an interface update to the second means for interfacing in response to the command, the means for updating being configured to automatically send interface updates to refresh the second means for interfacing.

32. The apparatus of claim 31, wherein the means for updating is further configured to receive a command from the first means for interfacing and transmit an interface update to the first means for interfacing in response to the command from the first means for interfacing.

33. The apparatus of claim 32, wherein

the interface update transmitted in response to the command from the first means for interfacing is transmitted to the first and second means for interfacing in response to the command from the first means for interfacing, and

the interface update transmitted in response to the command from the second means for interfacing is transmitted to the first and second means for interfacing in response to the command from the second means for interfacing.

34. The apparatus of claim 31, wherein the second means for interfacing is generated from the means for updating in response to the request for remote or collaborative control from an operator located at the second location.
35. The apparatus of claim 31, wherein the second location is remote from the first location.
36. The apparatus of claim 35, further comprising means for communicating configured to provide communication between the means for updating and the second means for interfacing.
37. The apparatus of claim 36, wherein the means for communicating is selected from a group including an intranet, the Internet, a local area network (LAN), a broadband network, and a wireless network.
38. The apparatus of claim 31, wherein the means for updating and the first means for interfacing are located proximate to the imaging system.
39. The apparatus of claim 31, wherein the second location is the first location.
40. The apparatus of claim 39, wherein the means for updating, the first means for interfacing, and the second means for interfacing are included in a collaboration control.
41. The apparatus of claim 31, further comprising third means for interfacing at an another location where remote or collaborative control of the imaging system is requested, wherein the first, the second, and the third means for interfacing are provided at different locations.
42. The apparatus of claim 41, wherein the third means for interfacing is generated from the means for updating in response to a request for remote or collaborative control from an operator located at the another location.
43. The apparatus of claim 41, wherein the means for updating is further configured to receive a command from the third means for interfacing and transmit an interface update to the third means for interfacing in response to the third command.

44. The apparatus of claim 43, wherein the apparatus is configured such that

an interface update is transmitted to the first, second, and third means for interfacing in response to a command from the first means for interfacing,

the interface update transmitted in response to the command from the first means for interfacing is transmitted to the first, second, and third means for interfacing in response to the command from the second means for interfacing, and

the interface update transmitted in response to the command from the first means for interfacing is transmitted to the first, second, and third means for interfacing in response to the command from the third means for interfacing.

45. The apparatus of claim 31, wherein the imaging system is selected from a group including a magnetic resonance (MR) imaging system, a computerized tomography (CT) imaging system, a nuclear medicine (NM) imaging system, and a x-ray system.

46. An image generated by the steps comprising:

providing a first user interface at a first location and a second user interface at a second location;

commanding an imaging system located at a third location with a command from at least one of the first user interface and the second user interface;

generating an interface update in response to the command to the imaging system, the interface update including data representative of the image; and

providing the interface update to the first user interface and the second user interface,

wherein the second user interface is provided at the second location when a remote or collaborative control of the imaging system is requested by a user at the second location.

47. The image of claim 46, wherein the first location and the second location are remote from each other.

48. The image of claim 47, wherein the third location is the same as the first location or the second location.

49. The image of claim 47, wherein the first, the second, and the third locations are remote from each other.

50. The image of claim 46, wherein the first location and the second location are proximate to each other.

51. The image of claim 50, wherein the third location is the same as the first location or the second location.

52. The image of claim 50, wherein the third location is remote from at least one of the first location and the second location.

53. The image of claim 46, wherein the providing step includes providing the second user interface using an application model in communication with the imaging system.

54. The image of claim 46, further comprising communicating to and from the first and the second user interfaces via an application model in communication with the imaging system.

55. The image of claim 54, wherein the generating step includes generating the interface update using the application model.

56. The image of claim 55, further comprising updating the first and the second user interfaces in response to the interface update.

57. The image of claim 56, wherein the updating step includes displaying the image on a means for displaying associated with each of the first and the second user interfaces.
58. The image of claim 46, wherein the command is selected from a group including image contrast prescription commands, scanning session commands, image acquisition plane prescription commands, archiving commands, pulse sequence prescription commands, image retrieval commands, imaging system configuration commands, and a variety of other commands.
59. The apparatus of claim 17, wherein the system is configured such that if a change is made to the application model using the first user interface data is automatically sent to the second user interface to update the second user interface, and such that if a change is made to the application model using the second user interface data is automatically sent to the first user interface to update the first user interface.
60. The apparatus of claim 17, wherein the application model is run on a processor separate from the imaging device.
61. The apparatus of claim 17, wherein the first user interface and second user interface are updated in real-time based on data from the application model.
62. The apparatus of claim 17, wherein the first user interface and the second user interface are configured to be controlled by a user in a same manner.
63. The apparatus of claim 17, wherein the first user interface and the second user interface are configured to display information relating to the application model in a same format.
64. The apparatus of claim 17, wherein the first user interface and second user interface are configured to be continuously updated in substantially real time.
65. The apparatus of claim 17, further comprising a third user interface configured to collaboratively control the application model with the first user interface and the second user interface.
66. A system for remote or collaborative control of an imaging system, comprising:

an application model configured to be in communication with an imaging device;  
a first user interface configured to control the application model; and  
a second user interface configured to control the application model;  
wherein the application model is configured such that it may be collaboratively  
controlled by the first user interface and the second user interface.

67. The system of claim 66, wherein the system is configured such that if a change is made to the application model using the first user interface data is automatically sent to the second user interface to update the second user interface, and such that if a change is made to the application model using the second user interface data is automatically sent to the first user interface to update the first user interface.

68. The system of claim 66, wherein the application model is run on a processor separate from the imaging device.

69. The system of claim 66, wherein the first user interface and the second user interface are located remote from the application model.

70. The system of claim 66, wherein the first user interface and second user interface are updated in real-time based on data from the application model.

71. The system of claim 66, wherein the first user interface and the second user interface are configured to be controlled by a user in a same manner.

72. The system of claim 66, wherein the first user interface and the second user interface are configured to display information relating to the application model in a same format.

73. The system of claim 66, wherein the first user interface is configured to be generated in response to a request for control of the imaging system at a first location, and the second user interface is configured to be generated in response to a request for control of the imaging system at a second location.

74. The system of claim 66, wherein the first user interface and second user interface are configured to be continuously updated in substantially real time.

75. The system of claim 66, further comprising a third user interface configured to collaboratively control the application model with the first user interface and the second user interface.

76. The system of claim 66, wherein the application model is run on a processor that is part of the imaging device.

**EVIDENCE APPENDIX**

**RELATED PROCEEDINGS APPENDIX**